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METHODOLOGICAL TOOLKIT FOR ASSESSING THE INVESTMENT ATTRACTIVENESS OF RENEWABLE RESOURCES IN NORTHERN AND ARCTIC TERRITORIES [1]

This article examines a pressing issue of assessing the investment attractiveness of renewable resources in underdeveloped Northern and Arctic territories that have a huge untapped natural resource potential. The subject of the study is the economic interactions that occur during the development of natural resource potential. The goal of this study is to develop the methodological toolkit for assessing the investment attractiveness for businesses and government authorities at various levels. At the pre-investment stage of development projects, we identified typical landscapes for zoning of the territory and assessed them for each type of renewable natural resources. Based on an analysis of existing approaches to natural resource zoning, the authors propose to identify three types of landscapes, including those that are attractive in terms of investment, those that are attractive in terms of investment with certain limitations, and those that are unattractive for investment. The study has confirmed the hypothesis that the selection of the most valuable natural resources expands the opportunities for their economic use. The investment attractiveness is determined by favorable geographical location, development of regional infrastructure, natural potential viewed as a priority object. The authors have provided the rationale for the need to valuate the natural resource potential of landscape areas within the boundaries of an assessed territory for the purposes of their ranking based on establishing the investment attractiveness. The limitations may be imposed by the low level of infrastructure development prerequisites, insufficient sustainability of landscapes to anthropogenic influences, export of raw materials for processing outside the territory, etc. The authors have substantiated the list of conditions that require the introduction of correction coefficients to the value indicators of natural resource potential in landscape areas. The main findings of the study are presented in the form of landscape zoning of the territory and methodological toolkit for assessing the investment attractiveness tested in Berezovsky Municipal District of Khanty-Mansi Autonomous Okrug — Yugra.

Keywords: investment, investment attractiveness, Northern and Arctic territories, natural resource potential, renewable natural resources, landscape areas, economic valuation, income-based approach, zoning, methodological recommendations

Introduction

In the current environment, the competition of regions for attracting investment and labor resources is quite a natural phenomenon. The capability of regions to participate in the competition is determined by their socio-economic potential, the level of competition and investment attractiveness. The competition is commonly understood as a contention for better conditions, sales market, investors, while the competitive advantage is seen as the attributes and characteristics of a country [1], firm [2] or territories [3], that create for it a certain advantage over its direct competitors. In some cases, the concept of "competitive advantages" is replaced by the concept of "investment attractiveness", which by definition [4, p. 78] represents "a set of criteria that motivate investors to prefer the investment in a given industry." We believe that the concept of "competitive advantages" is wider, since the competition is not always associated with attracting investment. At the same time, when addressing the problem of industrial and transport development of a territory, the competitive advantages of a region are essentially reduced to its investment attractiveness. Traditionally, the investment attractiveness is determined by advantages of regional infrastructure, rich natural potential, etc. For Northern underdeveloped territories, the natural potential, that includes the natural resource and environmental resource potential of the lower level, has a priority importance in establishing their investment attractiveness. It should be mentioned that this article examines the investment

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attractiveness of renewable natural resources that are substantially different in their characteristics from non-renewable (mineral) resources.

The contemporary Russian methodologies for assessing the investment attractiveness (value) of territories, resources, enterprises and other investment objects are, in most cases, based on international experience, which involves the consideration of investment objects in terms of return on monetary investments, including by providing the investors with the required return on their investment and the acceptability of investment risks [5, p. 153]. Some publications associate the investment attractiveness with the investment potential, the valuation of which is based on the expert assessment [6]. The investment potential is considered as an integral characteristic (rating) and used for ranking the territories by their investment attractiveness. Ye. V. Chub [7, p. 101] defined the investment potential of a region as a "set of conditions for implementing the investment processes that expresses the integral assessment of the attractiveness of the region for placement of investments in its territory in terms of corporate effectiveness (the corporate effectiveness is interpreted as the effectiveness within the mission of the company)." F. S. Tumusov gave the following definition: "a set of resources that make up the part of accumulated capital, which is represented in the investment market in the form of potential investment demand, capable and able to turn into real investment demand that meets the needs of the reproduction of capital" [8, p. 22].

The analysis shows that the assessments of investment potential reflect the current state of the regions in terms of their economic and social development. The state of natural resource potential is characterized as one of the components of the general rating assessment of investment potential. In this case, the absence of a detailed analysis examining the factors that determine the situation in the area of investments in the region does not allow to identify the bottlenecks in order to influence the dynamics of investment activities. This conclusion fully applies to the natural potential, where the assessment of investment attractiveness allows to make the most informed strategic decisions on its development.

Methodological Approach to Natural Resource Zoning

We believe that it is impossible to assess the investment attractiveness of natural resources without a quantitative and qualitative assessment of resources within the administrative and landscape areas or other territorial unit. Obviously, if there are few natural resources within the territory or their value is not high, then their investment attractiveness will also be low. Therefore, the most reasonable approach to assessing the investment attractiveness of the area's natural resources is their valuation by using the income-based approach. In this case, the calculated value of natural resources within a territorial unit allows to assess the effectiveness of investment in their development. Given that the natural resources of the Northern territories are in the initial stage of development, other approaches, including the market approach (based on assessments of resources by the stock market), accounting approach (based on accounting data) cannot be used.

The income-based approach is a set of methods for assessing the value of objects that is based on determining the income expected from the use of assessment object. The future income is assessed and summed up taking into account the time of its occurrence [9, p. 16]. The integrated calculation of the value of assessment object is performed in accordance with the following formula:

$$V = \frac{(B - C)D}{K_k}, \quad (1)$$

where V is the value of assessment object, rubles; B is sale price of the unit of natural resource or product of its processing, rubles; C is the costs of extraction and processing of production unit, rubles; D is the projected annual production, units; K_k is the capitalization rate, unit fraction.

The capitalization rate should provide the investor not only with an acceptable level of return on investment, but also allow to recoup these funds. [10]. When assessing the investment attractiveness at the pre-investment stage of planning, it is impractical to apply the capitalization rate given the limited ability to consider the implications of the project and, accordingly, the insufficient reliability of valuation at the early point of adopting the decision. The pre-investment stage does not require a detailed modeling of cash flows, which allows to substantially reduce the time costs in the process of assessment and avoid performing time-consuming calculations involving the processing of a large amount of input information (In practice, far from all real cash flows arising in the implementation

of the project have the necessary convergence with calculations). The simplified calculations allow to cover a wider variety of projects in order to select the best among them.

There are several approaches to natural resource zoning of a territory. The first is to identify the areas that are similar to each other by certain types of natural resources [11]. The integrated natural resource areas are determined by superimposing all the grids of private zoning. Then, for each of the identified areas, we can determine the value and structure of natural resource potential, and the areas with matching values are combined into a single natural resource area.

The second approach is to identify the combination of natural resources within the units of physical and geographic zoning, which allows to take into account the impact produced by territorial differentiation of geographic environment as a whole system [12]. However, the natural zoning takes into account those properties of the natural environment, that are not so significant in terms of the economic value of resources.

The third and more complex approach is based on understanding how the natural territorial systems are formed under the impact of latitudinal zonal (those that form the bioclimatic element of the landscapes) and azonal (those that form the geomorphological element of the landscapes) processes [13]. These two elements of the landscape are the objective base in the formation of qualitatively different combinations of natural resources and determine the patterns of their location. In this situation, we suggest the following stages of natural resource zoning: 1) Selecting resources for zoning and identification of territorial differentiation in bioclimatic and geological and geomorphological elements of the natural system; 2) Identifying the "concentration cores" of resources in accordance with their economic importance and tracing the boundaries between the concentration cores; 3) Combining the schemes of private zoning for these two elements of the natural system and conducting the comprehensive zoning [14].

Each approach has the right to exist with all its advantages and shortcomings. We believe that to identify the assessed landscape area it would be appropriate to use the first approach that requires to identify the uniformity of the set of natural resources within the landscape area. The identification of landscape areas (determining the types of landscapes, lands in the studied territory with a possible specialization of their economic use) is performed in accordance to forestry regulations, forest plans of the regions, administrative districts, forestries, descriptions of animal habitats, vegetation, lands, etc. The following factors are considered when identifying the landscape areas:

— Confinement of landscapes to different types of lands (swamp, forest, those suitable and unsuitable for agricultural purposes and other economic activities, etc.);

— Confinement of lands to mesorelief that describes the most important industrial and technological characteristics and properties;

— Location within the catch basin, including the terrain elevation, depth and density of separation and other geomorphological characteristics.

The territory of the administrative district on the map is divided into the blocks of identified basic types of landscape (that are similar in terms of their genesis and structure). The scale of maps has a functional link with their purpose. With regard to landscape maps, it is determined primarily by selection of geosystemic level, at which the mapping is performed. The scales ranging from 1:2,000,000 to 1:4,000,000 correspond to the regional order of geosystems, while for the district order, it would be more appropriate to use the maps with the scale ranging from 1:200,000 to 1:500,000. In the Northern territories, the square surface of administrative districts is usually large, which allows to use the maps with the scale of up to 1:1,500,000.

Table 1

The correction coefficients for the object location (transport accessibility, proximity to population centers, industrial enterprises)

Distance, km	Coefficient
100 km and more	1.7
40–100	1.5
20–40	1.3
5–20	1.1
0–5	1.0

The averaged economic assessment of similar types of landscapes is performed in accordance with the proposed methodological recommendations for assessment of natural resource potential [15]. The specific indicators are calculated per 1 km2 (1 ha) of the surface area for each type of landscape. The correction coefficients are adopted by analogy with the rent surcharges (discounts) to tariffs on merchantable wood (Table 1).

Ranking of Landscape Areas

Given the value and structure of the natural potential, natural prerequisites for opportunities of infrastructure development of the territory (availability of natural ways of communication, such as seas, rivers, lakes, degree of suitability of soils and topography for the construction of land communications, etc.), for the purpose of determining the investment attractiveness we suggest to identify three types of landscape areas [16]:

A. Attractive in terms of investment, with different combinations of natural resources, opportunity for deep processing of resources, good prerequisites for infrastructure development and, in the first place, the highest specific value of natural resource potential (per 1 km^2 of the total surface area);

B. Attractive in terms of investment, but with some limitations:

B.1 — Single-type resources, high specific value of natural resource potential;

B.2 — Shipment of raw materials for processing in other regions;

B.3 — Low level of prerequisites for infrastructure development;

B.4 — Low coefficient of sustainability ranging from 0.1 to 0.5 (conditions for future significant costs on environmental or compensation measures during the development of resources);

B5–B8 — Various combinations.

C. Unattractive in terms of investment (potentially, an investment-grade area), with the low specific cost of natural resource potential (or if the value of obtained products is lower than the costs to obtain them). Such areas are not included in the list of objects for further consideration.

In the process of zoning, the protected areas are considered as prohibited for development, and, accordingly, for investment.

The areas A and B include the natural resources that have been identified, surveyed, are technically available and commercially viable for development.

The area B includes potential natural resources, i.e. resources that have been identified on the basis of various data, surveys and, in addition to reliably identified natural resources, also include their part that cannot be currently developed for technical or economic reasons (e.g., forest resources that are far from transportation routes), i.e. an important role in the development of natural resources is played by economic factors that determine the profitability of their economic use. The potential resources are also called resources of the future, because their economic development becomes possible only amid a qualitatively new scientific and technological development of society [17], therefore, the areas that are unattractive in terms of investment may, over time, become attractive.

We should note that the current economic structure in Northern raw material regions contributes to the preservation of their traditional raw material orientation. The regional authorities are interested in large investment projects with significant cash flows during the disbursement of funds (not without a corruption component). The projects are mainly related to raw materials, such as timber cutting and mining with the shipment of products for processing in other regions. The environmental implications (and, in most cases, also the economic implications) of these projects are negative. Therefore, in the classification such resources are considered as less attractive.

A map is prepared on the basis of zoning. The map of investment zoning (for renewable natural resources) indicates by various colors the grades A, B, C, with a different shading for each grade to indicate the specific cost of natural resource potential, for example:

Specific costPotential$_{forestry}$ of less than 50 million rubles/km^2 — horizontal shading;

Specific costPotential$_{forestry}$ from 50 to 100 million rubles/km^2 — right diagonal shading, etc.

The methodology for assessing the investment potential of renewable natural resources is used at the early stage of assessment (pre-investment stage) and, therefore, the calculations involve aggregated indicators that give a fundamental assessment of the object, without specifying the parameters that do not affect the final result. The calculations are directly related to results of processing the natural resources, which ensure the sale of commercial products at today's maximum price. The selection of

the most efficient areas for using natural resources is based on the principle of comparing natural capabilities of individual regions.

Assessment of Investment Attractiveness of Renewable Natural Resources in Berezovsky District of Khanty-Mansi Autonomous Okrug—Yugra

The methodological recommendations have been tested for renewable natural resources in Berezovsky District of Khanty-Mansi Autonomous Okrug—Yugra. We used the information from forestry regulations, forest plans of the region, forestries, descriptions of animal habitats, lands, etc., to identify seven similar landscape areas that are typical of the Northern territories:

1. Landscape Type 1.

1.1. Swamp lands, including those near fluvial network (in the elevated floodplain); near watersheds (located between those near fluvial network and watersheds); watershed, which can be used for reindeer grazing, wild crop harvesting; lowlands. The height from the relative watercourse level is up to 150 m.

1.2. Swamp lands, including those in lowlands, peat lands, which can only be used for wild crop harvesting (given the lower crop yield and difficult access, they are used for harvesting at 20 %. When berry yield level drops below 50 kg/ha, the lands are not used). The height from the relative watercourse level is up to 30 m.

2. Landscape Type 2.

2.1. Unproductive forest lands located directly in the floodplain of rivers; bodies of water; areas near fluvial networks and watersheds; foothills and low mountain areas.

These lands have primarily environmental functions. They are used for wild crop harvesting, hunting, reindeer grazing, fishing.

2.2. Productive forest land located near fluvial networks, near watersheds and at watersheds. They belong to production forests, the Northern boundary of which runs along 62o45' of Northern Latitude. They are also used for wild crop harvesting, hunting, and reindeer grazing.

3. Landscape Type 3. Land suitable for agricultural purposes (for hayfields, pastures and tillage)

4. Landscape Type 4. Other lands unsuitable for economic activities (except for recreational activities in aesthetically attractive areas), including bare mountains, screes, rocky areas, etc. (out of scope).

5. Landscape Type 5. Productive aquatic areas.

6. Man-made Landscape Type 6. Areas under roads and buildings.

7. Landscape Type 7. Specially protected areas.

Landscape Types 1, 2, 4, and 6 are not included in the current assessment given that they are clearly unattractive in terms of investment. Type 7, which includes specially protected areas in the zoning, is considered as prohibited for development and, accordingly, for investment.

In accordance with the methodological recommendations, [16] we made an environmental assessment of natural resources in landscape areas.

Landscape Type 1.1. Swamp lands, including those near fluvial network (in the elevated floodplain); near watersheds (located between those near fluvial network and watersheds); watershed, which can be used for reindeer grazing, wild crop harvesting, and hunting. The most typical sections of this landscape type are 256, 257, 222, 221. The surface area of typical sections is 4,800 ha.

Economic assessment of the landscape:

Land resources. The reindeer pastures include 100 % of section surface area.

Economic assessment of natural resource—A_l:

$$A_l = (14{,}600 - 12{,}512) \times 0.0027 \times 4{,}800 = 27.1 \text{ thousand rubles},$$

where 14,600 is the cost of reindeer husbandry products, including all parts of reindeer (according to the data provided by Saranpaulsky State Unitary Enterprise of Reindeer Husbandry, State Property Department of Khanty-Mansi Autonomous Okrug—Yugra, village of Saranpaul), rubles/unit; 12,512 is the cost of production of reindeer husbandry products, rubles/unit; 0.0027 is the annual output of reindeer as products per 1 ha of pasture, units.

Wild crops. The surface area used for the wild crop harvesting is recorded at a coefficient of 0.25 applied to the fruit-bearing surface area in the total surface area of section lands. Economic assessment of natural resource is A_w:

$$A_w = [(200-140) \times 90 + (1{,}900-960) \times 7.5 + (120-75) \times 13] \times 4{,}800 \times 0.5 \times 0.25 = \\ = 7{,}821 \text{ thousand rubles},$$

where 200 is average market price of berries, and nuts, rubles/kg; 140, 960 and 75 are the costs on the harvesting, drying, transport, respectively, rubles / kg; 1,900 is average market price of dried mushrooms, rubles / kg; average yield from the raw materials is 24 %; 120 is average market price of dried medicinal and food plants, rubles / kg; average yield from the raw materials is 26 %; 90 is the productivity (based on the frequency of harvest): berries, nuts, rubles / kg; dried mushrooms 7.5 kg / ha; dried medicinal and food plants 13 kg / ha[2]; 0.5 is the coefficient that accounts for the allowable withdrawal of wild plants (according to Forestry Regulations of Berezovsky Forestry).

Hunting resources. The previously calculated annual cost of 23 types of hunting resources in Berezovsky District is 115,000 thousand rubles. The estimated surface area of hunting resources in the district is 8,127.3 thousand hectares (the surface area of the district excluding the lands under buildings, agricultural lands, wildlife preserves, natural reserves, other lands)[3]. Specific cost of hunting resources in the district:

$$115{,}000/8{,}127.3 = 0.014 \text{ thousand rubles/ha}.$$

And the productive aquatic areas (Landscape Type 5) include the most valuable hunting resources (muskrat, otter, waterfowl). The assessment and comparison of different types of lands revealed that productivity and cost of hunting resources in the aquatic areas are 5.2 times higher than in the productive and unproductive forest areas (specific mean) while, in the swamp lands, it is 2.2 times lower. The following ratios are accepted for the assessment:

For productive aquatic areas — 0.0728 thousand rubles / ha;

For swamp lands — 0.007 thousand rubles / ha.

The cost of the natural resource in the selected sections is A_h:

$$A_h = 4{,}800 \times 0.007 = 33.6 \text{ thousand rubles}.$$

The specific indicator for economic assessment of natural resources of the landscape is as follows:

$$(27.1 + 7{,}821.0 + 33.6) / 4{,}800 = 1.64 \text{ thousand rubles / ha}$$

Landscape Type 2.1. Unproductive forest lands located directly in the floodplain of rivers; bodies of water; areas near fluvial networks and watersheds; foothills and low mountain areas, which can be used for wild crop harvesting, hunting, recreational fishing, reindeer pastures. The most typical sections of this landscape type are 235, 261, 262. The surface area of typical sections is 2,400 ha.

Economic assessment of the landscape:

Land resources. The reindeer pastures include 90 % of section surface area. Economic assessment of natural resource — A_l:

$$A_l = (13{,}600-12{,}512) \times 2{,}400 \times 0.0027 \times 0.9 = 6.35 \text{ thousand rubles},$$

where 13,600 is the cost of reindeer husbandry products, including the output of all parts of reindeer, rubles/units.

Wild crops. The surface area used for the wild crop harvesting is recorded at a coefficient of 0.25 applied to the fruit-bearing surface area in the total surface area of section lands.

Economic assessment of natural resource is A_w:

$$A_w = [(200-140) \times 90 + (1{,}900-960) \times 7.5 + (120-75) \times 13] \times 2{,}400 \times 0.5 \times 0{,}25 = \\ = 3{,}910.5 \text{ thousand rubles}.$$

Hunting resources. The cost of the natural resource in the selected sections is A_h:

$$A_h = 2{,}400 \times 0.014 = 33.6 \text{ thousand rubles},$$

where 0.014 is specific economic assessment of hunting resources in the district, thousand rubles / ha.

[2] The Forestry Regulations of Berezovsky Forestry. The Annex to the Order of the Department of Natural Resources and Non-Raw Material Sector of the economy of the Khanty-Mansi Autonomous Okrug — Yugra No. 27-NP of August 17, 2012 "On Approval of the Forestry Regulations of Berezovsky Forestry".

[3] On the Scheme of Location, Use and Protection of Hunting Grounds in Khanty-Mansi Autonomous Okrug-Yugra. The Decree of the Governor of Khanty-Mansi Autonomous Okrug — Yugra No. 84 of June 24, 2013.

Fishery resources. The landscape type 2.1 has some closed unproductive bodies of water that have no commercial value and are used for recreational fishing.

The specific indicator for economic assessment of natural resources of the landscape is as follows:

$$(6.35 + 3{,}910.5 + 33.6) / 2{,}400 = 1.65 \text{ thousand rubles / ha.}$$

Landscape Type 2.2. The productive forest lands are located in the southern part of the district (Nyaksimvolskoye divisional forestry). They are used for industrial logging, wild crop harvesting, hunting, recreational fishing, and reindeer pastures. The most typical sections of this landscape type are 104, 105, 3, 4, 384. The surface area of sections is 4,400 ha.

Economic assessment of the landscape:

Land resources. The lands are currently not used for reindeer pastures.

Forest (wood) resources. Economic assessment of natural resource — A_f:

$$A_f = 2{,}268 \times 0.0045 \times (360 \times 13.9 - (315 + 2{,}800) = 1{,}9283 \text{ thousand rubles}$$

where 2,268 is the actual stock of wood with the gains in the surface area of sections, thousand m^3; 0.0045 is the share of calculated felling area for production forests of Nyaksimvolskoye Forestry, unit fraction; 360 is the average price of wood (coniferous and deciduous) sold at the root, including the scale of rent surcharges for commercial wood, rubles/m^3; 315 is the cost of logging, rubles/ m^3; 2,800 is the cost of wood processing to specified final product (bold timber) (according to the data provided by Torsky Sawmill LLC, settlement of Agirish, Sovetsky District, Khanty-Mansi Autonomous Okrug — Yugra), rubles / m^3; 13.9 is the coefficient that takes into account the price of specified final product (for bold timber);

Wild crops. The surface area used for the wild crop harvesting is recorded at a coefficient of 0.25 applied to the fruit-bearing surface area in the total surface area of section lands.

Economic assessment of natural resource is A_w:

$$A_w = [(200 - 140) \times 90 + (1{,}900 - 960) \times 7.5 + (120 - 75) \times 13] \times 4{,}400 \times 0.5 \times 0.25 = \\ = 7{,}169.3 \text{ thousand rubles.}$$

Hunting resources. Economic assessment of natural resources in the selected sections — A_h:

$$A_h = 4{,}400 \times 0.014 = 61.6 \text{ thousand rubles.}$$

Fishery resources. Enclosed unproductive bodies of water in the section have no industrial value and are used for recreational fishing.

The specific indicator for economic assessment of natural resources of the landscape is as follows:

$$(19{,}238.0 + 7{,}169.3 + 61.6) / 4{,}400 = 6.03 \text{ thousand rubles/ ha.}$$

Landscape Type 3. Lands suitable for agricultural purposes (for hayfields, pastures, tillage, except for reindeer pastures) are located around large population centers. The total surface area of agricultural lands is 37.9 thousand hectares, including 214 hectares of cultivated lands (private subsidiary farms). The rest of surface area includes pastures, hayfields (private subsidiary farms, peasant farms, and farm enterprises). Given the natural and climatic conditions and low population density, the agricultural lands have no industrial value[4].

Landscape Type 5. The productive aquatic areas with industrial fishing include the sections of Ob river with 3 channels (180 km), Northern Sosva river from the settlement of Nyaksimvol to the settlement of Tegi (785 km), Lyapin river from the settlement of Saranpaul to the confluence with Northern Sosva river (130 km), Kempazh river (50 km). The surface area of lands is 46,000 ha.

Economic assessment of the landscape:

Fishery resources. Economic assessment of natural resource — A_f:

$$A_f = (130 - 82) \times 46{,}000 \times 339.07 \times 0.2 = 149{,}733 \text{ thousand rubles;}$$

where 130 is the average price of fishery products, rubles / kg; 82 is the cost of procurement of fishery products, rubles / kg; 339.07 is the productivity of fishery resources (commercial stock), kg / ha; 0.2 is the quota adopted for Berezovsky district.

[4] State program of Khanty-Mansi Autonomous Okrug — Yugra "The Development of Agro-Industrial Complex and Markets of Agricultural Products, Raw Materials and Food in 2014–2020." Decree No. 420-p of October 9, 2013.

Hunting resources. Economic assessment of natural resource — A_h:

$$A_h = 46{,}000 \times 0.0728 = 3{,}339.6 \text{ thousand rubles},$$

where 0.0728 is economic assessment of hunting resources for productive aquatic areas, thousand rubles / ha; specific indicator for economic assessment of natural resources of the landscape:

$$(149{,}733.0 + 3{,}339.6)/46{,}000 = 3.33 \text{ thousand rubles / ha.}$$

The indicators of investment attractiveness are summarized in Table 2.

Table 2

The Indicators of Investment Attractiveness of Landscapes in Berezovsky District

Landscape Type	Specific cost, thousand rubles / ha	Surface area, thousand ha	Investment Attractiveness Index
1.1. Elevated swamp lands	1.64	350.3	B
1.2. Swamp lands in lowlands	Clearly low assessment	1,741.8	C
2.1. Forest unproductive lands	1.65	2,931.1	B
2.2. Forest productive lands	6.03	1,630.4	A
3. Lands suitable for agricultural purposes	Clearly low assessment	38.0	C
4. Other lands unsuitable for economic activities	Clearly low assessment	146.6	C
5. Productive aquatic areas	3.33	46.0	A
6. Areas under roads and buildings	Not assessed	7.02	-
7. Lands for environmental purposes	Forbidden for investment	1,918.8	-

Therefore, the most attractive in terms of investment are productive forest lands, which occupy 18.5 % of the total surface area of Berezovsky district, and unproductive forest lands located on 33.3 % of the surface area. Productive aquatic areas with a high value of 3.33 thousand rubles / ha occupy 1 % of the total surface area of Berezovsky district. We identified the following structural ratio for the value of individual types of landscape areas: the areas that are attractive in terms of investments — 19 %, areas that are attractive in terms of investment with limitations — 37.2 %, unattractive areas — 22 % and specially protected areas –21.8 %.

Conclusion

In the context of industrial and transport development of Northern territories, the issue of their investment attractiveness considered from the perspective of competitive advantages acquires a priority importance. This requires the valuation of natural resource potential in identified landscape areas within the boundaries of assessed territory in order to provide their ranking.

The algorithm for determining the valuation of natural resource potential of landscape areas includes the following stages: a) collecting the necessary information on natural resource potential expressed in natural indicators; b) identifying the landscape areas and their ranking based on the structure of lands, reserves of natural resources, geographic characteristics, development level of the territory; c) providing valuation of natural resources within the landscape areas and establishing their investment attractiveness.

The system for selecting potentially competitively attractive areas includes two phases at the pre-investment stage: the first phase identifies typical landscapes and determines their resource potential, the second phase involves selecting, by using the elaborated methodological toolkit, the most attractive natural resources for their development.

The assessment of ecosystem services, including regulatory and cultural ones [18–21] requires the corresponding adjustment in the economic assessment of landscape areas.

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